

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in this application.

LISTING OF CLAIMS:

1. (Previously Presented) A guide wire comprising:
a first wire disposed on the distal side of said guide wire;
a second wire disposed on the proximal side from said first wire;
wherein said first wire and said second wire are joined to each other by
welding;
a welded portion formed by the welding has a projection projecting in the
outer peripheral direction;
the projection extending on both axial sides of the welded portion;
said first wire and said second wire are not helical coils;
the proximal side and the distal side of said projection are formed into shapes
asymmetric to each other with respect to the welded surface of said welded portion;
a spiral coil covering at least a distal end portion of said first wire; and
material forming at least one of the proximal end of the first wire and the distal
end of the second wire constitutes at least a part of the projection.
2. (Canceled)
3. (Original) A guide wire according to claim 1, wherein said projection is
visible under fluoroscopy.

4. (Canceled)

5. (Previously Presented) A guide wire according to claim 1, wherein the proximal end of said coil abuts on said projection.

6. (Canceled)

7. (Original) A guide wire according to claim 1, wherein the vicinity of said welded portion between said first wire and said second wire, has a thinned portion, and said projection is provided on said thinned portion.

8 - 30. (Canceled)

31. (Previously Presented) A guide wire comprising:
a first wire disposed on the distal side of said guide wire;
a second wire disposed on the proximal side from said first wire;
the first wire is made of a pseudo-elastic alloy and the second wire is made of a different material than the first wire;
the second wire possessing an elasticity modulus greater than the elasticity modulus of the first wire;
wherein said first wire and said second wire are joined to each other by welding;

a welded portion formed by the welding has a projection projecting in the outer peripheral direction;

the projection extending on both axial sides of the welded portion;

the proximal side and the distal side of said projection are formed into shapes asymmetric to each other with respect to the welded surface of said welded portion;

the first wire and said second wire are not helical coils;

a welded surface of the welded portion at which the first and second wires are welded to each other being located at a maximum outer-diameter portion of the projection to disconcentrate stress to a smaller outer-diameter portion close to the projection;

a spiral coil covering at least a distal end portion of said first wire; and

material forming at least one of the proximal end of the first wire and the distal end of the second wire constitutes at least a part of the projection.

32. (Previously Presented) A guide wire according to claim 31, wherein the spiral coil does not cover the projection.

33. (Previously Presented) A guide wire according to claim 45, wherein the projection possesses an outer peripheral surface, the cover layer directly contacting the outer peripheral surface of the projection.

34. (Previously Presented) A guide wire according to claim 31, wherein the spiral coil possesses a proximal-most end positioned on a distal side of the projection.

35. (Previously Presented) A guide wire according to claim 31, wherein the projection is not surrounded by a spiral wire.

36. (Previously Presented) A guide wire comprising:
a first wire disposed on the distal side of said guide wire;
a second wire disposed on the proximal side from said first wire;
wherein said first wire and said second wire are joined to each other by welding;
a welded portion formed by the welding has a projection projecting in the outer peripheral direction;
the projection extending on both axial sides of the welded portion;
the projection possessing an outer peripheral surface;
the proximal side and the distal side of said projection are formed into shapes asymmetric to each other with respect to the welded surface of said welded portion;
a cover layer in direct contact with the outer peripheral surface of the projection to cover the projection;
the cover layer being a friction-reducing polymer material;
said first wire and said second wire are not helical coils;
a spiral coil covering at least a distal end portion of said first wire; and
material forming at least one of the proximal end of the first wire and the distal end of the second wire constitutes at least a part of the projection.

37. (Previously Presented) A guide wire according to claim 36, wherein the spiral coil possesses a proximal-most end positioned on a distal side of the projection.

38. (Previously Presented) A guide wire according to claim 36, wherein the spiral coil does not cover the projection.

39. (Previously Presented) A guide wire according to claim 36, wherein the projection is not surrounded by a spiral wire.

40. (Previously Presented) A guide wire according to claim 36, wherein the cover layer possesses an uncovered outer surface so that the cover layer is an outermost surface of at least a part of the guide wire.

41. (Previously Presented) A guide wire comprising:
a first wire disposed on the distal side of said guide wire;
a second wire disposed on the proximal side from said first wire;
wherein said first wire and said second wire are joined to each other by welding;
a welded portion formed by the welding has a projection projecting in the outer peripheral direction;
the projection extending on both axial sides of the welded portion;
the projection possessing an outer peripheral surface;

the proximal side and the distal side of said projection are formed into shapes asymmetric to each other with respect to the welded surface of said welded portion;

said first wire and said second wire are not helical coils;

a spiral coil covering at least a distal end portion of said first wire;

the spiral coil does not cover the projection,

the projection is not covered by a spiral-shaped wire; and

material forming at least one of the proximal end of the first wire and the distal end of the second wire constitutes at least a part of the projection.

42. (Previously Presented) A guide wire according to claim 41, the first wire is made of a pseudo-elastic alloy and the second wire is made of a different material than the first wire so that the second wire possesses an elasticity modulus greater than the elasticity modulus of the first wire.

43. (Previously Presented) A guide wire according to claim 46, wherein the cover layer possesses an uncovered outer surface so that the cover layer is an outermost surface of at least a part of the guide wire.

44. (Previously Presented) A guide wire according to claim 1, further comprising a cover layer covering the projection.

45. (Previously Presented) A guide wire according to claim 31, further comprising a cover layer covering the projection.

46. (Previously Presented) A guide wire according to claim 41, further comprising a cover layer covering the projection.

47. (Currently Amended) A guide wire comprising:
a first wire disposed on the distal side of said guide wire;
a second wire disposed on the proximal side from said first wire;
wherein said first wire and said second wire are joined to each other by welding at a weld joint so as to define a first enlarged proximal-most end portion of the first wire and a first enlarged distal-most end portion of the second wire;
~~a welded portion formed by the welding has a projection~~ formed by said welding and projecting in ~~[[the]]~~ an outer peripheral direction ~~[[;]]~~ ~~the projection extending on both axial sides of the welded portion~~ weld joint, said projection defining a final enlarged proximal-most end portion of the first wire and a final enlarged distal-most end portion of the second wire forming a smooth joining surface therebetween;
wherein the final enlarged proximal-most end portion of the first wire ~~welded portion~~ does not extend farther radially outwardly than ~~[[an]]~~ said first enlarged proximal-most end portion of the first wire and the final enlarged distal-most end portion of the second wire does not extend farther radially outwardly than ~~[[a]]~~ said first enlarged distal-most end portion of the second wire;
said first wire and said second wire are not helical coils;
a spiral coil covering at least a distal end portion of said first wire; and
material forming at least one of the proximal end of the first wire and the distal end of the second wire constitutes at least a part of the projection.

48. (Previously Presented) A guide wire according to claim 47, further comprising a cover layer covering the projection.

49. (Previously Presented) A guide wire according to claim 47, wherein the proximal end of said coil abuts on said projection.

50. (Previously Presented) A guide wire according to claim 47, wherein the proximal side and the distal side of said projection are formed into shapes asymmetric to each other with respect to the welded surface of said welded portion.

51. (Previously Presented) A guide wire according to claim 47, wherein said projection is visible under fluoroscopy.